CLAIMS

What is claimed is:

1. A method performed by a packet switching system, the method comprising:

a plurality of input components of the packet switching system sending a plurality of packets to a plurality of output components over a plurality of interconnection networks;

the packet switching system recognizing an error within the packet switching system; and

the packet switching system notifying the plurality of input components of the error.

2. The method of claim 1, wherein notifying the plurality of input components includes sending a packet containing an indication of the error to each of the plurality of input components.

3. The method of claim 1, wherein notifying the plurality of input components includes sending a packet containing an indication of the error.

4. The method of claim 3, wherein notifying the plurality of input components includes sending a packet to a broadcast component of the packet switching system, and further comprising the broadcast component broadcasting a status notification packet containing an indication of the error to the plurality of input components.

5. The method of claim 4, wherein notifying the plurality of input components includes sending a second packet to a second broadcast component of the packet switching system, and further comprising the second broadcast component broadcasting a second status notification packet containing a second indication of the error to the plurality of input components

6. The method of claim 1, further comprising each of the plurality of input components updating one or more status data structures in response to receiving a notification of the error.

7. The method of claim 6, further comprising each of the plurality of input components determining which of a plurality of paths leading to a destination output component over which to send a particular packet, the path determined by referencing the one or more status data structures.

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8. The method of claim 6, wherein each of the plurality of input component references its one or more status data structures in determining which of a plurality of paths leading to a destination output component over which to send a particular packet.

9. The method of claim 6, wherein the one or more data structures include an output availability table to indicate whether a possible path through the packet switching system from the input component to a particular destination is available.

10. The method of claim 6, further comprising disabling at least one of the plurality of input components from sending packets to a particular destination of the packet switching system when a number of possible paths through the packet switching system leading to a particular destination falls below a predetermined threshold value.

11. The method of claim 6, wherein the one or more data structures include a fault indication for a first output component over a first interconnection network of the plurality of interconnection networks, and further comprising sending a first packet over the first interconnection network to a second output component.

12. The method of claim 6, wherein the one or more data structures include a link availability table to indicate which of a plurality of outputs of a particular input component are available.

13. A packet switching system comprising:

a plurality of input components, each of the plurality of input components maintaining a fault data structure;

a plurality of output components; and

a plurality of interconnection networks, each of the plurality of interconnection networks coupled to each of the plurality of input components and to each of the plurality of the output components to provide a plurality of paths between each of the plurality of input components and the plurality of output components;

wherein the fault data structure of at least one of the plurality of input components includes an indication of which interconnection networks the at least one input component may send packets through to reach a particular output component.

14. The packet switching system of claim 13, further comprising a broadcast mechanism to receive an indication of a problem within the packet switching system and to notify the plurality of input components of the problem.

15. The packet switching system of claim 14, wherein the broadcast mechanism is located in one of the plurality of interconnection networks.

16. The packet switching system of claim 14, wherein the broadcast mechanism is located in each of the plurality of interconnection networks.

17. The packet switching system of claim 13, wherein each of the input components references its associated fault data structure in determining which of the plurality of interconnection network through which to send a particular packet.

18. The packet switching system of claim 13, wherein the fault data structure includes an output availability indication of which of the plurality of interconnection networks through which its associated input component may send packets.

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